

REMARKS

Claims 1-7, 12-15, 18-21 and 34-35 are presently pending in the captioned application with claims 1, 4-7, 15 and 34 amended, claims 8-11, 16-17 and 22-33 deleted without disclaimer or prejudice as to the subject matter contained therein in response to a Restriction Requirement with claims 2-3, 12-14 and 18-21 and 35 as originally pending.

Claims 1, 4, 6 and 15 have been amended to contain the limitations of a commercially used pulverized material and a ratio of each of the components of the regenerated resin composition (Component C) in a range from 0.7 to 1.5 times the content of each in Component A. Support for the amendments can be found in the specification at page 6, lines 7-22 and page 16, lines 18-27. Additionally, claim 5 has been amended to depend from claim 4 and claim 7 from claim 6.

No new matter within the meaning of § 132 has been added by any of the amendments.

Additionally, Applicant proffers a certified copy of priority document JP-2000-88195 filed on March 28, 2000; an English translation of JP 2000-88195; and a certification that the English translation is a true copy thereby perfecting Applicant's claim to foreign priority. Upon perfection of the

claim to priority under § 119(a), Applicant is entitled to rely upon the earliest effective filing date of March 28, 2000, thereby removing WO Patent No. 00/12629 ("Kobayashi") as prior art under § 102(b) or § 102(e). A copy of the proffered documents will be submitted as soon as they are received from overseas.

Accordingly, Applicant respectfully requests the Examiner to enter the amendments, reconsider the rejections in view of the arguments and allow all claims pending in this application.

**1. Rejection of Claim 5 under
35 U.S.C. § 112, 2nd paragraph**

The Office Action rejects claim 5 under 35 U.S.C. § 112, 2nd paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The Office Action states that A-2-PS and A-2-PE are not defined.

Applicant has amended claim 5 to depend from claim 4, wherein claim 4 provides a definition for the terms A-2-PS and A-2-PE.

Accordingly, Applicant respectfully requests the Examiner

to reconsider and remove the rejection under § 112, 2nd paragraph.

2. Rejection of Claims 1-7, 12-15, 18-21 and 34-35 under 35 U.S.C. § 103(a)

The Office Action rejects claim 1-7, 12-15, 18-21 and 34-35 under 35 U.S.C. § 103(a) as being unpatentable over WO Patent No. 00/12629 ("Kobayashi") in view of Developments in Injection Molding. The Office Action states:

The examiner relies on U.S. Patent No. 6,483,683 as a translation.

Kobayashi (table 1) exemplifies compositions of PC, ABS, phosphate flame retardant, talc and PTFE. The apparent MW is about 20,000 and the wet heat MW retention is high.

The composition is injected molded (col. 26 line 28). This corresponds to applicant's (A) material prior to being pulverized. The reference does not explicitly suggest recycling this material.

During injection molding, it is common practice to regranulate runners, sprues, faulty moldings etc. and recycle them back into the injection molding process (see the Injection Molding Text). In effect, this recycling would blend regranulated PC, ABS, phosphate, talc, PTFE articles with virgin PC, ABS, phosphate, talc and PTFE.

It would have been obvious to recycle Kobayashi's faulty moldings, runners etc. back into virgin feed as a cost saving measure.

Applicant respectfully traverses the § 103(a) rejection over Kobayashi because the captioned application's earliest effective filing date is March 28, 2000, from Japanese Patent Application JP 2000-088195.

As stated in the remarks section, the captioned application is a § 371 national phase application of International Application PCT/JP01/02474 filed on March 27, 2001, which in turn claims priority from Japanese Patent Application JP 2000-088195 filed on March 28, 2000. Therefore, the captioned application's earliest effective filing date is March 28, 2000. In contrast, Kobayashi was published less than 19 days prior on March 9, 2000. Accordingly, Kobayashi is not a § 102(b) reference.

Similarly, Kobayashi is not a § 102(e) reference because the U.S. filing date of Kobayashi is April 26, 2000, which is after the captioned application's earliest effective filing date of March 28, 2000.

Applicant notes that the filing date of the captioned application is March 28, 2000, which is only 19 days prior to

the publication date of Kobayashi on March 09, 2003. Accordingly, Kobayashi should not be considered to be prior art under § 102(a).

Since the primary reference is not prior art under § 102, Applicant respectfully submits that a *prima facie* case of obviousness has not been established.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections of claims 1-7, 12-15, 18-21 and 34-35 under 35 U.S.C. § 103(a).

**3. Rejection of Claim 1-7, 12-15, 18-21
and 34-35 under 35 U.S.C. § 103(a)**

The Office Action rejects claim 1-7, 12-15, 18-21 and 34-35 under 35 U.S.C. § 103(a) as being unpatentable over the WO Patent No. 00/12629 ("Kobayashi") in view of the Developments in Injection Molding in further view of U.S. Patent No. 6,369,142 ("Nodera et al. '142") or U.S. Patent No. 6,384,114 ("Nodera et al. '114") The Office Action states:

Nodera '142 (abstract; table 1) and Nodera '114 (Table 1-1) both show PC, styrenic resin, phosphate compositions are recyclable. This further suggests recycling the very similar Kobayashi composition.

As stated supra, Applicant respectfully traverses the § 103(a) rejection over Kobayashi because the captioned application's earliest effective filing date is March 28, 2000, from Japanese Patent Application JP 2000-088195.

The captioned application is a § 371 national phase application of International Application PCT/JP01/02474 filed on March 27, 2001, which in turn claims priority from Japanese Patent Application JP 2000-088195 filed on March 28, 2000. Therefore, the captioned application's earliest effective filing date is March 28, 2000. In contrast, Kobayashi was published less than 19 days prior on March 9, 2000. Accordingly, Kobayashi is not a § 102(b) reference.

Similarly, Kobayashi is not a § 102(e) reference because the U.S. filing date of Kobayashi is April 26, 2000, which is after the captioned application's earliest effective filing date of March 28, 2000.

Applicant notes that the filing date of the captioned application is March 28, 2000, which is only 19 days prior to the publication date of Kobayashi on March 09, 2003. ?
Accordingly, Kobayashi should not be considered to be prior art What under § 102(a).

Since the primary reference is not prior art under § 102, Applicant respectfully submits that a *prima facie* case of obviousness has not been established.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections of claims 1-7, 12-15, 18-21 and 34-35 under 35 U.S.C. § 103(a).

**4. Rejection of Claim 1-7, 12-15, 18-21
and 34-35 under 35 U.S.C. § 103(a)**

The Office Action rejects claim 1-7, 12-15, 18-21 and 34-35 under 35 U.S.C. § 103(a) as being unpatentable over the U.S. Patent No. 6,369,142 ("Nodera et al. '142") in view of Development in Injection Molding. The Office Action states:

Nodera '142 (table 1) exemplifies injection molded blends of PC, styrenic resin, phosphate etc. The blend is said to be moisture resistant due to the small decrease in impact strength after exposure to humidity. Although not identical to applicant's "wet heat retention ratio", it is analogous. If impact strength has little decrease, then the viscosity would also have little decrease. The MW of the PC used in the examples has a MW of 19,000 (col. 16 line 52). This is close to that used by applicant's examples (page 86 line 5). The composition is said to be recyclable. For

all of these reasons, Nodera's composition is believed to inherently meet applicant's (A) material. The burden of proof shifts to applicant to show otherwise (MPEP 2112).

Nodera does not explicitly state adding his recycled composition to fresh virgin ingredients.

This is one method of "recycling" as shown by the injection molding text. It would have been obvious to recycle faulty moldings, sprues and runners back into the virgin starting ingredients as a cost savings measure.

Applicant respectfully traverses the rejection because the cited references fail to teach each and every claimed limitation of the presently pending claims and further fail to provide any suggestion or motivation to make the claimed limitations. In particular, Nodera et al. '142 does not teach or suggest a pulverized material having a wet heat retention ratio of at least 60 % or an amount ratio of the aromatic polycarbonate resin in the range of from 0.7 to 1.5. Even assuming *arguendo* that a *prima facie* exists, Applicant rebuts any presumption of obviousness with evidence demonstrating that a wet heat retention ratio of at least 60 % unexpectedly produces a recycled product having far superior initial impact, long-term accelerated impact and impact ratio retention values.

Turning to the rule, the Federal Circuit held that a *prima facie* case of obviousness must establish: (1) some suggestion or motivation to modify the references; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

However, even if a *prima facie* case of obviousness has been established, secondary considerations such as commercial success, long felt but unsolved need, failure of others, and unexpected results may nevertheless give rise to a patentable invention. Graham v. John Deere Co., 148 U.S.P.Q. 459 (1966). For example, evidence such as superiority in a property the compound shares with the prior art can rebut a *prima facie* case of obviousness. See In re Chupp, 816 F.2d 643, 646, 2 USPQ2d 1437, 1439 (Fed. Cir. 1987).

In the present application, the independent claims recite a regenerated resin composition comprising

(I) a pulverized material (Component A) that satisfies conditions

(1) that the pulverized material is a pulverized

material of a molded article having an aromatic polycarbonate resin content of 30 to 98% by weight,

(2) that the pulverized material has a viscosity average molecular weight of 17,000 to 30,000,

(3) that the pulverized material has a wet heat retention ratio of at least 60 %, and

(4) that the pulverized material is a pulverized material of a molded article which has been commercially used, and

(II) an aromatic polycarbonate resin (Component B) wherein the amount ratio of the aromatic polycarbonate resin in the regenerated resin composition (Component C) is in the range of from 0.7 to 1.5 times the content of it in Component A.

However, none of the cited references teach an aromatic polycarbonate resin (Component B) wherein the amount ratio of the aromatic polycarbonate resin in the regenerated resin composition (Component C) is in the range of from 0.7 to 1.5 times the content of it in Component A or that the pulverized material has a wet heat retention ratio of at least 60 %. Moreover, no teaching is provided which would suggest or motivate one of ordinary skill in the art to make a wet heat

retention ratio of at least 60 % or a ratio range of from 0.7 to 1.5.

In particular, a wet heat retention ratio of at least 60 % is an index of deterioration. In other words, a wet heat retention is an unexpected indicator of when a material would be difficult to attain mechanical strength of a regenerated resin composition. For example, a Component A having a history of substantial amount of deterioration as shown by the wet heat retention lacks mechanical strength despite having a viscosity average molecular weight of 17,000 to 30,000.

Unexpectedly, the wet heat ratio with a cut-off of 60 % is critical to a high impact strength resin composition regenerated from pulverized material. Table 3 of the present specification, which is summarized below for Example 4 and Comparative Example 4, clearly elucidates this unexpected and critical limitation.

Table 3 (summarized)

		Ex.4	C. Ex 4
Component A	model	MS-2	MS-1
	viscosity average	21,800	21,500
	wet heat retention ratio	86%	55%
Initial impact value		443	338
Long-term accelerated impact value		368	47
Impact value retention ratio		82	14

MS-1, MS-2 (page 75 of the present specification)

As can be seen from Table 3, a wet heat retention of 55 % results in a very low long-term accelerated impact value of 47 as compared to a accelerated impact value of 368 for a wet heat retention of 86 %. Similarly, the impact value retention ratio of a product outside the claimed range is only 14 whereas a product within the claimed limitation is almost 600 % greater at 82. Clearly, the unexpected result of arriving at high impact strength regenerated resins by way of wet heat retention is completely unexpected.

Moreover, Applicant's evidence is not mere optimization of results effective variables because one of ordinary skill in the art would not have expected that the specific claimed limitation of wet heat strength would impart desirable heat resistant characteristics. As the Examiner himself states, one of ordinary skill in the art would expect that impact strength would decrease with a decrease in viscosity not wet heat strength.

As the court stated in In re Corkill, "a greater than expected result is an evidentiary factor pertinent to the legal conclusion of [non]obviousness". 711 F.2d 1496, 266 USPQ 1005 (Fed. Cir. 1985). Clearly, one of ordinary skill in the art would not have been motivated to make the claimed invention based on the teachings of the cited references. Moreover, the unexpected and superior advantages of the claimed invention rebuts any allegation of *prima facie* obviousness.

Accordingly, Applicant respectfully submits that the presently claimed invention is unobvious over the cited references and respectfully request reconsideration and withdrawal of the rejections of claims 1-7, 12-15, 18-21 and 34-35 under § 103.

**5. Rejection of Claim 1-7, 12-15, 18-21
and 34-35 under 35 U.S.C. § 103(a)**

The Office Action rejects claim 1-7, 12-15, 18-21 and 34-35 under 35 U.S.C. § 103(a) as being unpatentable over the U.S. Patent No. 6,384,114 ("Nodera et al. '114") in view of the Developments in injection molding. The Office Action states:

Nodera '114 (Table 1-1) exemplifies injection molded blends of PC, styrenic resin, phosphate etc. The blend has a minor decrease in impact strength after exposure to humidity. Although not identical to applicant's "wet heat retention ratio", it is analogous. If impact strength has little decrease, then the viscosity would also have little decrease. The MW of the PC used in the examples has a MW of 19,000 (col. 14 line 21). This is close to that used by applicant's examples (page 86 line 5). The composition is said to be recyclable. For all of these reasons, Nodera's composition is believed to inherently meet applicant's (A) material. The burden of proof shifts to applicant to show otherwise (MPEP 2112).

Nodera does not explicitly state adding his recycled composition to fresh virgin ingredient.

This is one method of "recycling" as shown by the injection molding text. It would have been obvious to recycle faulty moldings, sprues and runners back into the virgin starting ingredients as a cost saving measure.

Applicant respectfully traverses the rejection because the cited references fail to teach each and every claimed limitation of the presently pending claims and further fail to provide any suggestion or motivation to make the claimed limitations. In particular, Nodera et al. '114 does not teach or suggest a pulverized material having a wet heat retention ratio of at least 60 % or an amount ratio of the aromatic polycarbonate resin in the range of from 0.7 to 1.5. Even assuming *arguendo* that a *prima facie* exists, Applicant rebuts any presumption of obviousness with evidence demonstrating that a wet heat retention ratio of at least 60 % unexpectedly produces a recycled product having far superior initial impact, long-term accelerated impact and impact ratio retention values.

Turning to the rule, the Federal Circuit held that a *prima facie* case of obviousness must establish: (1) some suggestion or motivation to modify the references; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

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(I) a pulverized material (Component A) that satisfies conditions

(1) that the pulverized material is a pulverized material of a molded article having an aromatic polycarbonate resin content of 30 to 98% by weight,

(2) that the pulverized material has a viscosity average molecular weight of 17,000 to 30,000,

(3) that the pulverized material has a wet heat retention ratio of at least 60 %, and

(4) that the pulverized material is a pulverized material of a molded article which has been commercially

used, and

(II) an aromatic polycarbonate resin (Component B) wherein the amount ratio of the aromatic polycarbonate resin in the regenerated resin composition (Component C) is in the range of from 0.7 to 1.5 times the content of it in Component A.

However, none of the cited references teach an aromatic polycarbonate resin (Component B) wherein the amount ratio of the aromatic polycarbonate resin in the regenerated resin composition (Component C) is in the range of from 0.7 to 1.5 times the content of it in Component A or that the pulverized material has a wet heat retention ratio of at least 60 %. Moreover, no teaching is provided which would suggest or motivate one of ordinary skill in the art to make a wet heat retention ratio of at least 60 % or a ratio range of from 0.7 to 1.5.

In particular, a wet heat retention ratio of at least 60 % is an index of deterioration. In other words, a wet heat retention is an unexpected indicator of when a material would be difficult to attain mechanical strength of a regenerated resin composition. For example, a Component A having a history of substantial amount of deterioration as shown by the wet heat retention lacks mechanical strength despite having a viscosity

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Moreover, Applicant's evidence is not mere optimization of results effective variables because one of ordinary skill in the art would not have expected that the specific claimed limitation of wet heat strength would impart desirable heat resistant characteristics. As the Examiner himself states, one of ordinary skill in the art would expect that impact strength would decrease with a decrease in viscosity not wet heat strength.

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Accordingly, Applicant respectfully submits that the presently claimed invention is unobvious over the cited references and respectfully request reconsideration and withdrawal of the rejections of claims 1-7, 12-15, 18-21 and 34-35 under § 103.

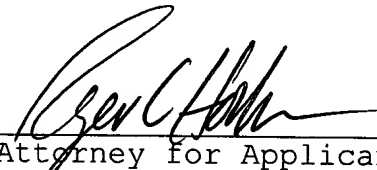
CONCLUSION

In light of the foregoing, Applicant submits that the application is now in condition for allowance. The Examiner is therefore respectfully requested to reconsider and withdraw the rejection of the pending claims and allow the pending claims. Favorable action with an early allowance of the claims pending is earnestly solicited.

Respectfully submitted,

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Attorney Docket No. OHS-309
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
TAKAGI) Group Art Unit: 1712
Serial No. 09/979,555) Examiner: David J. Buttner
Filed: November 26, 2001)
For: **RECLAIMED RESIN COMPOSITION**

Appendix A

Please amend the following claims according to the proposed revision of 37 C.F.R. §1.121 concerning a manner for making claim amendments.

1. (Currently Amended) A regenerated resin composition comprising (I) a ~~molded article~~ pulverized material (Component A) that satisfies conditions

(1) that the ~~molded article~~ pulverized material is a pulverized material of a molded article having, an aromatic polycarbonate resin content of 30 to 98% by weight,

(2) that the pulverized material has a viscosity average molecular weight of 17,000 to 30,000, and

(3) that the pulverized material has a wet heat retention ratio of at least 60 %, and

(4) that the pulverized material is a pulverized material of a molded article which has been commercially used, and

(II) an aromatic polycarbonate resin (Component B),
and wherein the amount ratio of the aromatic polycarbonate resin in the regenerated resin composition (Component C) is in the range of from 0.7 to 1.5 times the content of it in Component A.

2. (Original) The regenerated resin composition of claim 1, which has a pulverized material (Component A) content of 5 to 60% by weight and an aromatic polycarbonate resin (Component B) content of 5 to 90 % by weight.

3. (Original) The regenerated resin composition of claim 1, wherein the pulverized material (Component A) has a wet heat retention ratio of at least 70 %.

4. (Currently Amended) The regenerated resin composition of claim 1, wherein the pulverized material (Component A) contains a styrene-based resin (Component A-2-PS) or an aromatic polyester resin (Component A-2-PE), and the amount ratio of each of the styrene-based resin and the aromatic polyester resin in the regenerated resin composition (Component C) is in the

range of from 0.7 to 1.5 times the content of each in Component A.

5. (Currently Amended) The regenerated resin composition of claim ~~4~~ 4, wherein the pulverized material (Component A) contains 1 to 65 % by weight of Component A-2-PS or Component A-2-PE.

6. (Currently Amended) The regenerated resin composition of claim 1, wherein the pulverized material (Component A) contains a flame retardant (Component A-3), and the amount ratio of the flame retardant in the regenerated resin composition (Component C) is in the range of from 0.7 to 1.5 times the content of it in Component A.

7. (Currently Amended) The regenerated resin composition of claim ~~4~~ 6, wherein the pulverized material (Component A) contains 1 to 30 % by weight of a phosphoric ester (Component A-3-a) as a flame retardant.

Claims 8-11 (Cancelled)

12. (Original) The regenerated resin composition of

claim 1, wherein the pulverized material (Component A) has an aromatic polycarbonate resin (Component A-1) content of 40 to 90 % by weight.

13. (Original) The regenerated resin composition of claim 1, wherein the pulverized material (Component A) has a viscosity average molecular weight of 18,000 to 26,000.

a' 14. (Original) The regenerated resin composition of claim 1, which has a pulverized material (Component A) content of 6 to 50 % by weight and an aromatic polycarbonate resin (Component B) content of 10 to 85 % by weight.

15. (Currently Amended) The regenerated resin composition of claim 1, which is a regenerated resin composition composed of the pulverized material (Component A) and the aromatic polycarbonate resin (Component B), a styrene-based resin and a flame retardant, wherein Component A contains an aromatic polycarbonate resin (Component A-1), a styrene-based resin (Component A-2-PS) and a flame retardant (Component A-3), and the regenerated resin composition (Component C) is a composition that contains

- (1) 30 to 96 % by weight of an aromatic polycarbonate resin (Component C-1),
- (2) 3 to 40 % by weight of a styrene-based resin (Component C-2-PS), and
- (3) 0.01 to 30 % by weight of a flame retardant (Component C-3),
and the amount ratio of each of the aromatic polycarbonate resin, the styrene-based resin and the flame retardant in the range of from 0.7 to 1.5 times the content of each in Component A.

a!
Claims 16-17 (Cancelled)

18. (Original) The regenerated resin composition of claim 15, which contains, as the flame retardant (Component C-3), 1 to 30 % by weight of a phosphoric ester (Component C-3-a).

19. (Original) The regenerated resin composition of claim 15, which gives a molded article having a wet heat retention ratio of at least 60 %.

20. (Original) The regenerated resin composition of claim 15, which gives a molded article having an impact value retention ratio of at least 60 %.

21. (Original) The regenerated resin composition of claim 15, which gives a molded article that satisfies V-0 in a flame retardancy test according to UL-94.

Claims 22-33 (Cancelled)

a' 34. (Currently Amended) A molded article formed of the regenerated resin composition recited in any one of claims 1 or 15 ~~, 22 or 28~~.

35. (Original) The molded article of claim 34, which has a wet heat retention ratio of at least 60 %.
